

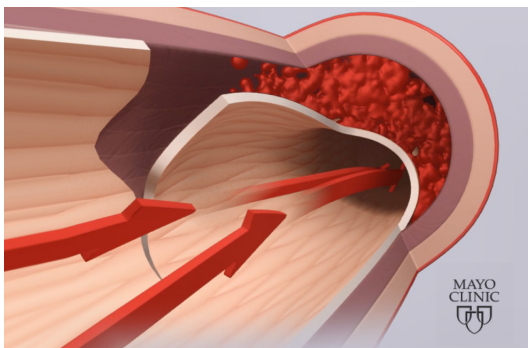


SCAD RESEARCH  
SPONTANEOUS CORONARY  
ARTERY DISSECTION

# A SCAD Heart Attack

## WHAT IS SCAD?

SCAD stands for spontaneous coronary artery dissection. SCAD represents a sudden tear within the layers of one or more coronary arteries, which partially or completely blocks blood flow to the heart resulting in myocardial infarction (MI) and occasionally, sudden death.



SCAD patients present similarly to other types of MI, most commonly with chest pain and other signs and symptoms of myocardial ischemia. It's important to distinguish the pathophysiology of SCAD from an MI due to atherosclerosis, since acute and long term management differs.

## WHO EXPERIENCES SCAD?

SCAD is the #1 cause of heart attacks among women under the age of 50 years and those who are pregnant or peripartum. Most people with SCAD are young, healthy, active women who have no family history of heart disease or personal risk factors for atherosclerosis. The average age is 42 years but it has been described in teenagers and women in their 7th decade of life. Although less common, SCAD can affect men too. Most SCAD patients have been found to have an underlying systemic arteriopathy, most commonly fibromuscular dysplasia (FMD).





## HOW IS SCAD DIAGNOSED?

SCAD patients typically have electrocardiogram (ECG) findings and troponin level elevations consistent with myocardial necrosis. A diagnosis of SCAD as the specific type of MI is by its typical appearance at the time of a coronary angiogram or, occasionally, by CT coronary angiography. In the case of sudden unexpected death, an autopsy may reveal SCAD. Advances in medical technology and awareness have led to more individuals surviving initial SCAD but the long term risk of readmissions, revascularization, chest pain and recurrent SCAD is substantial.

## HOW IS SCAD TREATED?

Although much has been learned about SCAD in the past few years, the etiology of SCAD remains obscure and no primary or secondary preventive intervention has been identified. However, accurate differentiation of SCAD from other causes of MI is crucial because the approach to acute and long term care is different. Specifically, patients undergoing percutaneous coronary intervention (PCI) for MI due to SCAD have technical success rates that are markedly reduced compared to PCI success rates for atherosclerotic MI (62% vs 92%). Also, research has noted a substantial rate of spontaneous vascular healing without intervention and suggests a role for conservative management in stable SCAD patients who have preserved coronary flow. Conservative management usually includes 4-5 days of careful inpatient monitoring. Statins do not appear to prevent another SCAD heart attack. Maintaining normal blood pressure after SCAD is important. SCAD can recur, so vigilance, evaluation for associated conditions, and staying up-to-date on emerging research is also important.



**#1 CAUSE OF MI IN WOMEN UNDER 50**



**#1 CAUSE OF MI IN PREGNANT & PERIPARTUM WOMEN**



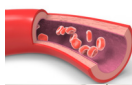
**NON-ATHEROSCLEROTIC CORONARY HEART DISEASE**



**AFFECTS HEALTHY INDIVIDUALS WITH NO RISK FACTORS**



**CONSERVATIVE NON-INVASIVE TREATMENT IS OFTEN BEST**



**ARTERIES FREQUENTLY HEAL WITHOUT INTERVENTION**



**AS AWARENESS & DIAGNOSIS HAVE INCREASED, MEDICAL COMMUNITY REALIZING SCAD IS NOT SO RARE**

## FOR MORE INFORMATION

Hayes, SN et al; Spontaneous Coronary Artery Dissection: Current State of the Science: A Scientific Statement From the American Heart Association *Circulation*. 2018 May 8; 137(19): e523 -@e557

[www.ncbi.nlm.nih.gov/pmc/articles/PMC5957087/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC5957087/)

Clinical update on diagnosis & management of SCAD patients, *Journal of the American College of Cardiology* 2020 August

<https://www.jacc.org/doi/abs/10.1016/j.jacc.2020.05.084>

Visit [www.mayo.edu/research/SCAD](http://www.mayo.edu/research/SCAD)



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